

specimen of *lace* which Mr. Talbot exhibited to the Society, and which was made five years ago, was preserved in this manner. But his usual method of fixing is different from this, and somewhat simpler, or at least, requiring less nicety. It consists in immersing the picture in a strong solution of *common salt*, and then wiping off the superfluous moisture and drying it. It is sufficiently singular that the same substance which is so useful in *giving* sensibility to the paper, should also be capable, under other circumstances, of *destroying* it, but such is nevertheless the fact. Now, if the picture which has been thus washed and dried, is placed in the sun, the white parts colour themselves of a pale lilac tint; after which they become insensible. Numerous experiments have shown the author, that the depth of this lilac tint varies according to the quantity of salt used relatively to the quantity of silver. But by properly adjusting these, the images may, if desired, be retained of an absolute whiteness. He mentions also, that those preserved by *iodine* are always of a very pale primrose yellow, which has the extraordinary and very remarkable property of turning to a full gaudy yellow whenever it is exposed to the heat of a fire, and recovering its former colour again when it is cold.

A paper was also read, entitled, "A Description of a Hydro-pneumatic Baroscope." By J. T. Cooper, Esq., Lecturer on Chemistry.

The liability of the ordinary mercurial barometer to derangement and to fracture, led the author to the construction of an instrument for measuring atmospheric pressure that should be exempt from these objections. It consists of a float, formed by a brass tube, having the shape of the frustum of an inverted cone, nine inches long, two inches in diameter above, and one inch below, and its content being about fourteen cubic inches. From the centre of the upper and wider end, which is closed, a brass wire proceeds, surmounted by a cup, for the purpose of holding such weights as are necessary for bringing the float, when immersed in water, to the same constant level. The lower and smaller end of the tube is closed by a brass plug, sufficiently heavy to sink the instrument to the proper depth, and maintain its position, and having a small perforation in its centre. This float is inclosed in a case, containing the water in which it is to be immersed, and which is to be raised to a constant given temperature by a spirit lamp burning beneath it. The float being first filled with water, a given portion of this water is poured out into a measure of known capacity, and is consequently replaced by an equal volume of air, the dilatations or contractions of which will, when the temperature is constant, be dependent only on the external pressure of the atmosphere; and the latter will, therefore, be indicated by the weights requisite to be placed in the cup of the float, in order to maintain it at the same level in the fluid, on the principle of the hydrometer. The author gives a minute description of all the parts of the apparatus, of the method of using it, and of the adjustments and calculations required for determining by its means the difference of level of two stations.

Mr. Darwin's paper, entitled, "On the Parallel Roads of Glen Roy, and other parts of Lochaber, &c.," was resumed, but not concluded.

February 28, 1839.

JOHN WILLIAM LUBBOCK, Esq., V.P. and Treas.,
in the Chair.

Commander Henry Mangles Denham, R.N., and Richard Drew, Esq., were balloted for, and duly elected into the Society.

The reading of a paper, entitled, "Observations on the Parallel Roads of Glen Roy, and of other parts of Lochaber, with an attempt to prove that they are of Marine Origin." By Charles Darwin, Esq., M.A., F.R.S., Sec. Geological Society, was resumed and concluded.

The author premises a brief description of the parallel roads, shelves, or lines, as they have been indefinitely called, which are most conspicuous in Glen Roy and the neighbouring valleys, referring for more detailed accounts to those given by Sir Thomas Lauder Dick, in the Transactions of the Royal Society of Edinburgh, and by Dr. Macculloch in those of the Geological Society of London. Both these geologists endeavour to explain the formation of these shelves on the hypothesis of their resulting from depositions at the margin of lakes, which had formerly existed at those levels. The author, however, shows that this hypothesis is inadmissible, from the insuperable difficulties opposed to any conceivable mode of the construction and removal, at successive periods, of several barriers of immense size, whether placed at the mouths of the separate glens, or at more distant points. He does not, however, propose the alternative, that the beaches, if not deposited by lakes, must of necessity have been formed by channels of the sea, because he deems it more satisfactory to prove, from independent phenomena, that a sheet of water, gradually subsiding from the height of the upper shelves to the present level of the sea, occupied for long periods not only the glens of Lochaber, but the greater number, if not all the valleys of that part of Scotland; and that this water must have been that of the sea. It is argued by the author, that the fluctuating element must have been the land, from the ascertained fact of the land rising in one part, and at the same time sinking in another; and therefore, that this change of level in Scotland, attested as it is by marine remains being found at considerable heights both on the eastern and western coasts, implies the elevation of the land, and not the subsidence of the surrounding waters. The author next shows, that in all prolonged upward movements of this kind, it might be predicted, both from the analogy of volcanic action, and from the occurrence of lines of escarpment rising one above the other in certain regions, that in the action of the subterranean impulses there would be intervals of rest. On the hypothesis that the